

WHAT IS CLAIMED IS:

1. An information handling system, comprising:
at least one processor;
at least one memory operably associated with the
5 processor;
a physical layer transceiver operably associated
with the memory and the processor;
a communication switch operably coupled to the
physical layer transceiver via a first set of board-
10 mounted transmission lines;
communication port operably coupled to the
communication switch via a second set of transmission
lines, the communication port operable to communicatively
couple to an external network connection;
15 a port replicator connector operably coupled to the
communication switch via a third set of board-mounted
transmission lines, the port replicator connector
operable to communicatively couple the information
handling system to an external network connection via a
20 port replicator mounted communication port; and
a plurality of inductive devices operably coupled to
a plurality of transmission lines, the inductive devices
selected and coupled to the transmission lines such that
one or more electrical characteristics of selected
25 transmission lines may be tuned to substantially
approximate one or more electrical characteristics
required by the external network.

2. The information handling system of Claim 1,
further comprising positioning the inductive devices on a
plurality of the transmission lines between the
communication switch and the physical layer transceiver.

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3. The information handling system of Claim 2,
further comprising positioning the inductive devices on
two pairs of transmission lines, the first pair of
transmission lines for use in receiving information from
10 the external network and the second pair of transmission
lines for use in transmitting information to the external
network.

4. The information handling system of Claim 2,
15 further comprising positioning the inductive devices on
four pairs of transmission lines, each of the pairs of
transmission lines operable to receive information from
and transmit information to the external network.

20 5. The information handling system of Claim 1,
further comprising positioning the inductive devices on a
plurality of the transmission lines between the
communication switch and the communication port and on a
plurality of the transmission lines between the
25 communication switch and the port replicator connector.

6. The information handling system of Claim 1,
further comprising;

a port replicator operably coupled to the port
replicator connector, the port replicator including an
5 information handling system connector, a communication
port and a plurality of transmission lines operably
coupling the information handling system connector to the
communication port;

a plurality of inductive devices coupled to the
10 second set of board-mounted transmission lines; and

a plurality of inductive devices coupled to the
transmission lines of the port replicator.

7. The information handling system of Claim 6,
15 further comprising the port replicator operable to
receive and operate at least one add-on device.

8. The information handling system of Claim 1,
further comprising the inductive devices selected and
20 positioned such that a communication signal produced at
the communication port complies with transmission line
specifications as embodied in the example of IEEE
802.3ab.

9. A circuit board for use in an information handling system, comprising:

at least one Ethernet physical layer transceiver;

at least one Ethernet switch communicatively coupled
5 to the Ethernet physical layer transceiver through a first plurality of transmission lines;

at least one Ethernet communication port communicatively coupled to the Ethernet switch through a second plurality of transmission lines;

10 a port replicating device connector communicatively coupled to the Ethernet switch through a third plurality of transmission lines;

a plurality of inductive devices serially coupled to a plurality of the transmission lines, the inductive
15 devices selected and positioned such that an impedance measure from the Ethernet physical layer transceiver to an external Ethernet network connection on the circuit board substantially matches an impedance measure required by a communication protocol on the Ethernet network.

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10. The circuit board of Claim 9, further comprising of the plurality of inductive devices coupled to the first plurality of transmission lines

25 11. The circuit board of Claim 10, further comprising an inductive device coupled to each of the first plurality of transmission lines.

12. The circuit board of Claim 9, further comprising the plurality of inductive devices operably coupled to the second and third pluralities of transmission lines

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13. The circuit board of Claim 9, further comprising:

inductive devices coupled to the second plurality of transmission lines; and

10 the third plurality of transmission lines operable to couple to a port replicator having inductive devices coupled to corresponding transmission lines included therein.

15 14. The circuit board of Claim 9, further comprising the plurality of inductive devices coupled to at least two of the pluralities of transmission devices

20 15. The circuit board of Claim 9, further comprising:

a gigabit Ethernet switch;

an inductive device operably coupled to each of the first plurality of transmission lines; and

25 the inductive devices selected to substantially offset capacitive characteristics of the gigabit Ethernet switch.

16. A method for creating a compliant board-mounted gigabit Ethernet communication pathway, the board-mounted gigabit Ethernet communication pathway including a gigabit Ethernet switch coupled to a gigabit Ethernet physical layer transceiver, an Ethernet communication port and a port replicator connector through a first, second and third plurality of transmission lines, respectively, the method comprising:

measuring capacitive effects added to the communication pathway resulting from addition of the gigabit Ethernet switch;

selecting an inductive device determined capable of reducing the additional capacitive effect of the gigabit Ethernet switch; and

coupling the inductive device to a plurality of the transmission lines coupled to the gigabit Ethernet switch.

17. The method of Claim 16, further comprising coupling a selected inductive device to each of the transmission lines between the gigabit Ethernet switch and the gigabit Ethernet physical layer transceiver.

18. The method of Claim 16, further comprising coupling a selected inductive device to each of the plurality of transmission lines between the gigabit Ethernet switch and the Ethernet communication port.

19. An information handling system communication pathway, comprising:

a physical layer transceiver;

an electronic switch operably coupled to the
5 physical layer transceiver through four pairs of transmission lines;

a communication port coupled to the electronic switch through four pairs of transmission lines;

a port replicator connection operably coupled to the
10 electronic switch through four pairs of transmission lines;

the electronic switch operable to selectively activate communications capabilities on the communication port and the port replicator connection; and

15 at least one of the four pairs of transmission lines having included on each transmission line an inductive device serially coupled thereto, selection and placement of the inductive devices determined in accordance with achieving substantial impedance matching with a
20 communication network to be connected to the information handling system.

20. The information handling system communication pathway of Claim 19, further comprising:

the inductive devices coupled between the electronic switch and the physical layer transceiver; and

5 the inductive devices selected and placed to substantially offset an electronic switch capacitance such that a communication signal produced on the communication pathway complies with transmission line specifications as embodied in IEEE 802.3ab.